

# Dental Amalgam Management – Great Lakes Pilot Projects Update

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# Great Lakes Grant Recipients



# Dental Project Focus

- Continue mercury reduction efforts
- Build upon innovative practices of each project
- Use expertise regionally



# Milwaukee Amalgam Separator project

- Combines regulatory drives with P2
  - MMSD mandate by Jan. 2008
  - First reports due in 2005
- Achieves 95% capture of amalgam
- Must be coupled with best management practices
- Impacts over 500 clinics and 900 dentists
- Serves as pilot for rest of state

# Key accomplishments

- Formation of partnership with WI Dental Association, WI DNR, MMSD, UWEX
- Outreach activities
- Separator decision matrix and case studies





# Decision Matrix

- Designed to assist in choosing separator
- Will be updated every 6 months
- Should check web for new products

<sup>3</sup> Systems installed after oil/water separator must have 120V AC power and/or gravity flow available

Model  Criteria	Maximum Separation Systems 1-800-799-7147 www.amalgamseparators.com		AB Dental Trends 1-360-354-4722 www.amalgamseparation.com		Hygienetik 1-866-494-3648 www.hygienitek.com	Pure Water Systems 1-877-638-2797 www.ecotwo.com	Biosym Medical Corporation 1-800-947-7550	Rebec 1-800-569-1088 www.rebecsolutions.com
	MSS 1000	MSS 2000	Rasch 890-1000	Rasch 890-6000	ARU-10	ECO II	MERC II	RME 2000-CatchHg or Catch 400
Model Dimensions (WxLxH in inches)	24x15x18.5	28x18.5x15	28.5x10.25x12.75	5.5x9x12.5	24x12x12	14x9x9	8x13x7	23.5x20x8
Flow Capacity (# of Chairs)	2 1-11 chairs	2 11-22 chairs	3 1-12 chairs	3 1-12 chairs	2 1-6 chairs	2 1-5 chairs	2 1-8 chairs (1-4 at max capacity)	2 1-8 chairs
Ease of Maintenance	2	2	2	2	2	2	2	2
Frequency of Maintenance	2	2	3 Tank switch 18 months	3 Tank switch 18 months	2	1	3 Annual replacement of filter	3 Annual replacement of containment collector
Recycling Program Included?	2 available	2 available	2 available	2 available	3	3	3	3
Purchase Cost: Affordable?	2 \$968	2 \$1395	1 \$1190	2 \$666	2 \$689	3 \$160	2 \$845	1 \$1895/\$985
O&M Cost: Affordable?	2 annual tank replacement	2 biannual tank replacement	1 new tank required	1 new tank required	\$34/month	M2 cleaner pouch needed 3/chair/year @\$74.70	Annual Unit Replacement	Annual container replacement
Estimated Five Year System Costs	2 \$2368 + labor	2 \$2270 + labor	2 \$2680 + labor	2 \$2150 + labor	2 \$2739+labor	2 \$3094 + labor	2 \$4225 + labor	2 \$3475 + labor
Total								



<div>Model</div> <div>Criteria</div>	<b>A/T Amalgam Separator</b> Air Techniques 1-800-AIRTECH www.airtechniques.com	<b>The Amalgam Collector</b> R&D Services 1-800-816-4995 www.theamalgamcollector.com		<b>Asdex</b> American Dental Accessories 1-800-331-7993	<b>DRNA</b> 1-800-360-1001 www.drna.com	<b>SolmeteX</b> 1-508-393-5115 www.solmetex.com	
<b>Model Dimensions</b> (WxDxH in inches)	A1010 6.25x10.5x7.5	CH9 or CH12 6x6x9 (12)	CE18 or CE24 6x6x18 8x8x24	AS-9 5.5x5.5x16	BU10 8.5x8.5x20	Hg 5/Hg5 HV 10x13x29 18 x 23 x 28	Hg 10 48x48x24
<b>Flow Capacity (# of Chairs)</b>	2 1-8 chairs	1 1-2 chairs	3 6-12 chairs	1 1 chair	2 1-6 chairs	3 1-10 chairs	2 10-25 chairs
<b>Ease of Maintenance</b>	1	1	1	2	3	2	2
<b>Frequency of Maintenance</b>	2	2	2	1	2 annually	2	2
<b>Recycling Program Included?</b>	2	2 upon request	2 upon request	2 available	3 included	3 (service pack included)	3 (service pack included)
<b>Purchase Cost: Affordable?</b>	1 \$1500	2 \$515	2 \$715-\$1120	3 \$250	2 \$695	2 \$695	1 \$7450
<b>O&amp;M Cost: Affordable?</b>	2	3	3	2	1 annually switched out	2 replace filter 2x/yr	1 annually switched out
<b>Estimated Five Year System Costs</b>	1 \$7500 + labor	3 \$515+ labor	3 \$715 + labor	2 \$1830+ labor	2 \$3475 + labor	2 \$2695 + labor	1 \$11,560+ labor
<b>Total</b>							

# 3 Typical Installations

<u>DDS</u>	<u>Clinic Size</u>	<u>Manufacturer</u> <u>/</u> <u>Model</u>
Costello	8 chairs	Rebec RME 1000
Raimann	5 chairs	SolmeteX Hg5
Donohoo & Hebl	6 chairs	R & D Service Amalgam Collector CE 18

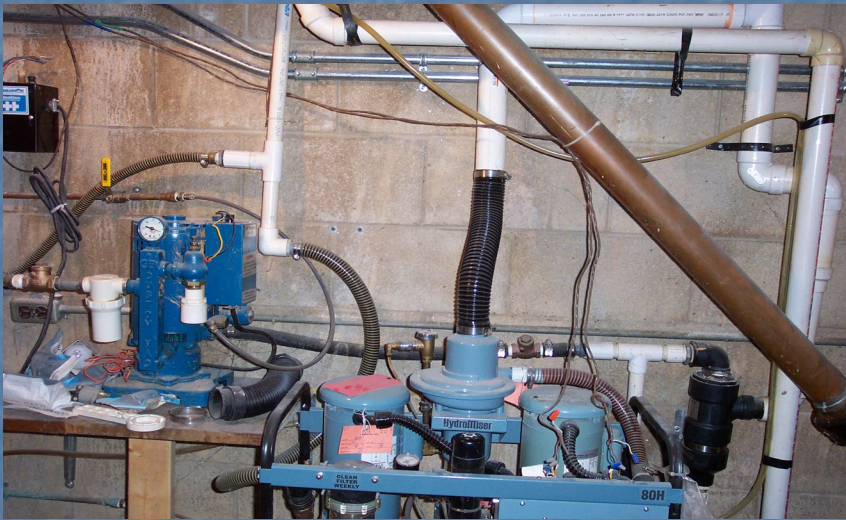


# Costello





# Raimann



# Donohoo & Hebl





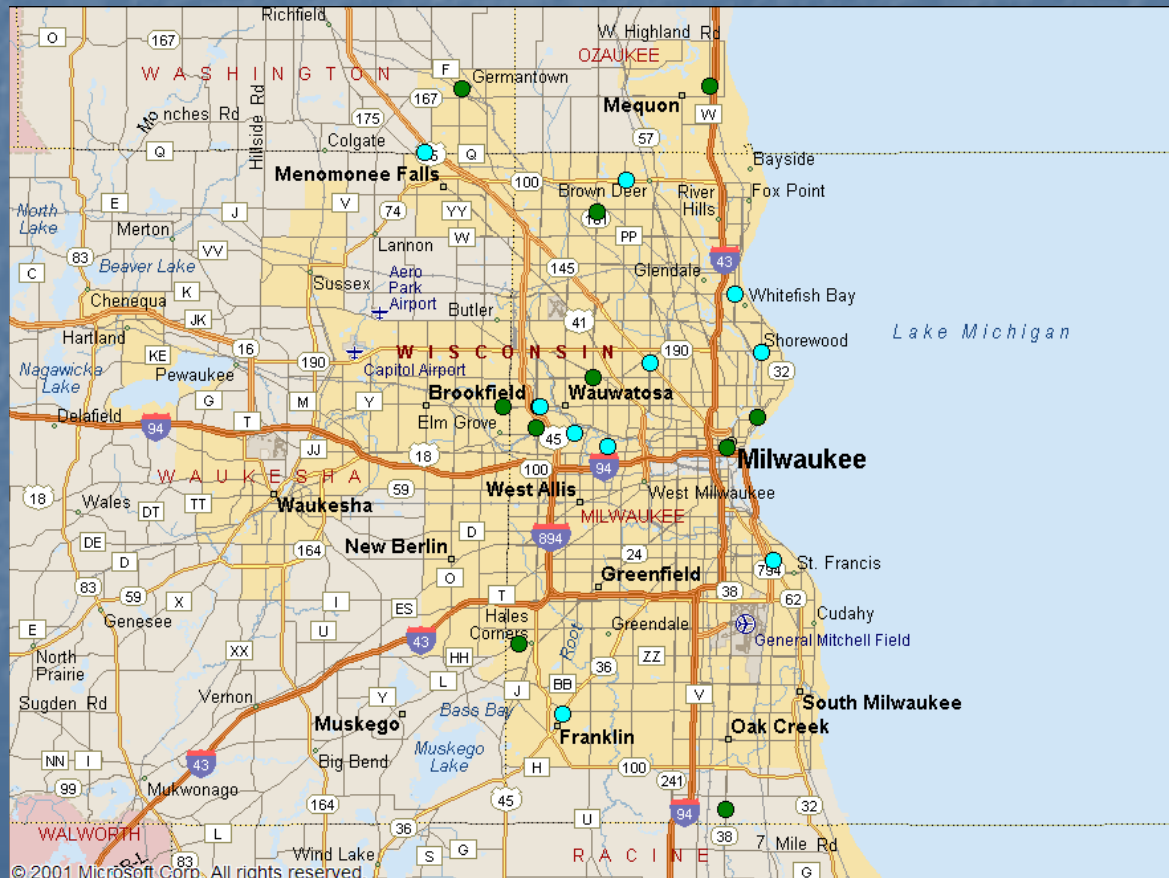
# Next Steps

- Project to be expanded statewide
- DNR wastewater regulations will be driver
- Partnership efforts to continue
- Fact sheets will be updated semi-annually



# Lessons learned

- 2008 deadline is too long a lead time!



# Erie County Dental Waste Management Program

- Collaborated with recipients of other GLNPO 2003 grants for dental waste management projects
- Met with Executive Director of the Erie County Dental Society to develop a schedule for the dental waste management workshops, refine the agenda and plan outreach and education strategies.
- Submitted an article to the Erie County Dental Society newsletter to describe the program and services available to dentists.

# Erie County Dental Waste Management Program

- dental waste management workshops
- Participated in public workshops hosted by the NYSDEC to review and comment on draft Standards for the Management of Elemental Mercury and Dental Amalgam Wastes at Dental Facilities.
- CESQG collection for dentists to dispose mercury waste, lead foil and silver fixer on October 22, 2004



# ***Dental Mercury Reduction Project***

***Delta Institute** (with Steve Skavroneck)*

**Desired Outcome:** To develop a consistent approach to handling mercury in dental offices that will result in *quantifiable* reductions in mercury discharges to sewage treatment plants

**Approach:** Partner with Ohio Dental Association, Ohio EPA and POTWs to put on workshops bringing together dentists and POTW staff

# ***Project Activities***

- Recruited and convene advisory committee to design workshops
- Recruited speakers from Ohio Dental Assn, Naval Dental Research Institute and Ohio EPA
- Prepared comprehensive info packets for both dentists and POTW staff
- Publicized workshops
- Organized, facilitated and evaluated workshops



# ***The Workshops***

- May 5—Bowling Green, OH
- May 12—Elyria, OH
- Approx. 120 people attended the workshops
- ~2/3 dentists and 1/3 POTW staff
- New project to follow-up with some of the POTW attendees to help them develop their mercury reduction programs
- ODA staff also did follow-up presentation at annual statewide ODA leadership meeting.





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## **Workshop Agenda**

# **Dental Amalgam Waste: Partnering for the Environment**

**Lorain County Community College Spitzer Conference Center**

**May 12, 2004**

### **Session One: Why sewage treatment agencies are talking with dentists about mercury**

- 2:10      Role of dentists**
- 2:20      Role of sewage treatment plants**
- 2:40      Questions**

### **Session Two: Opportunities for reducing amalgam releases from dental offices**

- 3:15      Best management practices (BMPs)**
- 3:45      Amalgam separators**
- 4:05      Panel discussion and wrap up**

# Next Steps in Ohio

- POTWs will be networked
  - Toledo will be center with 3-4 partner communities
- Still concentrate on NE Ohio

# Multimedia Training for Dental Offices

- Naval Institute for Dental and Biomedical Research
- Developed video and dvd explaining best management practices
- Partnership with the ADA



# Multimedia Training

## ■ Results

- Able to build upon existing multimedia efforts
- Partnership with ADA assured “acceptance”
- Extensive quality review
- ADA will distribute DVD including video, BMPs, and recyclers list

## ■ Challenges

- ADA bureaucracy added lead time to project.

# Next Steps

- Looking into mercury vapor releases from dental operator
- Testing air emissions using Jerome and Lumex

# Lessons Learned

- Working collaboratively adds synergy
- Dentists needs:
  - Like a high degree of control regarding products
  - Frustration that they are doing their part = what about others?
  - Making changes to BMPs difficult – alternatives not readily accepted.
    - Eg., separators not considered BMP
- Patience and persistence highly recommended!!!